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## (54) A COOKER HOOD AIR EXTRACTION APPLIANCE

(71) We, BOSCH-SIEMENS HAUSGERATE GMBH, seated in Stuttgart, German Federal Republic, the address for communication being 8000 München 2, Prannerstrasse 8, German Federal Republic, a limited liability company organised under the laws of the German Federal Republic, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a cooker hood air extraction appliance.

In known appliances, it is usual to assemble the appliance casing from several individual parts, namely side walls, front wall, bottom and roof which are releasably or non-releasably connected with one another either with the aid of a carrying frame or else as a self-supporting construction. Furthermore, it is usual in known appliances to insert into the casing a separate volute housing for an air impelling device.

The casing, consisting in the known appliances of many individual parts, represents an appreciable cost factor because of the considerable effort in assembly operations and the devices required for the assembly. In mass production, expensive administrative measures, such as inventory and transport of the individual parts, are also necessary. In addition, in the case of known casings assembled from individual parts, special constructional measures are necessary for their stiffening, which gives rise to further costs.

According to the present invention there is provided a cooker hood air extraction appliance comprising a casing which is formed as a one-piece component and which includes a wall portion which separates an upper cavity containing air impelling means from a lower cavity containing air filtering means, the upper and lower cavities being in air flow communication through an opening in the wall.

Due to the casing having been formed from a single piece of material expensive assembly operations, otherwise necessary for assembling a casing from several parts, are avoided and appreciable savings are made in the assembly of the appliance. At the same time, costs arising in mass production can be substantially reduced by this construction. In addition, with a moulded casing, the rigidity thereof is appreciably improved. In this manner a saving in raw material, and thus a reduction in weight of the casing, can be achieved.

Constructing the appliance with an upper open cavity contributes substantially to simplification of the construction and the assembly of the appliance, and considerably increases the strength and torsional stiffness of the casing.

The casing may be formed from a plate by deep drawing.

An embodiment of the present invention will now be more particularly described by way of example with reference to the accompanying drawings, in which:

Fig. 1 is a schematic longitudinal section of a cooker hood air extraction appliance embodying the invention;

Figs. 2 and 3 are perspective views of the appliance from below and from above, respectively; and

Fig. 4 is a plan view of the appliance.

Referring now to the drawings, there is shown a cooker hood air extraction appliance 10 for mounting above a kitchen stove or the like and provided with a casing 11 which is open at its underside and which has substantially rectangular profiles with a rounded-off front portion. The hood 10 is equipped in the usual manner with filter equipment, such as an activated carbon filter 12 and a fat filter of a non-woven fabric 13, arranged in the interior of the casing 11. A metal sieve plate 14, serving as a carrier for the non-woven fabric 13 and bent upwards in its forward section, is withdrawably inserted into an open lower cavity of the casing 11 and closes off the opening of

this cavity downwardly with the exception of the rounded-off front portion of the casing.

5 The casing 11 is provided with wall portions 15, comprising a roof portion of the casing, at least partially defining a volute air guiding device. At the underside of the wall portion 15 is disposed a carrier 16 for supporting the rear section of the activated carbon filter 12. A fan impeller 17, which is driven by an electric motor and which serves as an air impelling device for the fume extraction hood, is disposed in the centre of the air guiding device.

15 A lid 18 is provided at its front portion with ventilation slots 19 and at its rear portion with a circular aperture 20 provided with a sleeve 21 for connection to an exhaust pipe (not shown). To operate the hood 10 for the circulation of air, the aperture is closed off by a plate 22 (Figs. 3 and 4) which may be cemented over the aperture and air is sucked up from the room, purified by the filters 12, 13 and impelled by the fan impeller 14 through the slots 19 back into room. To operate the hood 10 for extraction of air the aperture is connected to an exhaust pipe, the slots 19 are closed by means not shown and air sucked up from the room is impelled through the aperture 20.

20 The rounded-off front portion of the casing 11 partially defines an air inlet 23, in which is arranged an incandescent bulb 24, serving as illuminating means, and other different electrical installations, such as a switching and regulating device 25. The switching and regulating device 25 is provided with a setting knob 26 which protrudes out from the casing 11 at an easily accessible place at the front side.

25 Stamped-out ribs 27, which serve for the placing of the casing against a wall carrying the air extraction hood 10, are disposed at the rear side of the casing. As is evident from Figs. 1 and 2, the casing 11 has at its underside a rabbit-like rim 28, which is bent over inwardly and which serves as stiffening for the casing and as a support for incorporated parts, for example the metal sieve plate 14.

30 The casing 11 may be produced by deep-drawing a sheet metal plate. In that case, the opposed rearward wall portions, insofar as they may be concealed by adjacent fittings in a built-in kitchen during the later building-in of the air extraction hood 10, have an incline appropriate to the deep-drawing process i.e. they are downwardly divergent relative to each other. The front portion of the casing 11, constructed as an air inlet 23 has opposed side portions which are substantially vertical so that they bear flush against the side walls of adjacent fittings.

35 The rounding-off of the forward portion

of the casing 11 is particularly favourable, since the risk of injury by knocking against this forward portion, when it protrudes over a stove, may be substantially reduced.

In place of the illustrated and described casing 11 manufactured by a deep-drawing process from sheet metal or synthetic material, it is possible to manufacture a casing of that kind from, for example, metal or synthetic material by a moulding process.

70 In the appliance hereinbefore described, the casing has a particularly simple construction and can be manufactured economically, so that the total cost of an appliance equipped with a casing of that kind is substantially reduced.

#### WHAT WE CLAIM IS:—

1. A cooker hood air extraction appliance comprising a casing which is formed as a one-piece component and which includes a wall portion which separates an upper cavity containing air impelling means from a lower cavity containing air filtering means, the upper and lower cavities being in air flow communication through an opening in the wall portion.

2. An appliance as claimed in claim 1, further comprising at least one electrical component arranged in the casing.

3. An appliance as claimed in claim 2, comprising a switching and regulating device arranged in the casing.

4. An appliance as claimed in either claim 2 or claim 3, comprising lighting means arranged in the casing.

5. An appliance as claimed in any one of the preceding claims, air guiding means being defined by at least a part of the upwardly facing surface of the wall portion.

6. An appliance as claimed in any one of the preceding claims, wherein the upper cavity is closable by a lid arranged on the casing.

7. An appliance as claimed in claim 6, wherein the air impelling means comprises a fan drivably connected to a motor mounted on the lid.

8. An appliance as claimed in either claim 6 or claim 7, wherein the lid is provided with at least one of an air outlet aperture and air outlet slot means.

9. An appliance as claimed in any one of the preceding claims, wherein the casing has been formed by deep-drawing.

10. An appliance as claimed in any one of the preceding claims, wherein the casing comprises a rounded front portion, at least partially defining an air inlet.

11. An appliance as claimed in claim 10, wherein the lighting means is arranged in the air inlet.

12. An appliance as claimed in either claim 10 or claim 11, wherein in the region of the air inlet the casing is provided with

opposed side wall portions which each in use extend substantially vertically, and in a region behind the air inlet region the casing is provided with opposed side wall portions which mutually diverge downwardly.

13. An appliance as claimed in any one of the preceding claims, wherein the casing has a rim portion which has been folded over inwardly of the casing.

14. A cooker hood air extraction appliance substantially as hereinbefore described with reference to the accompanying drawings.

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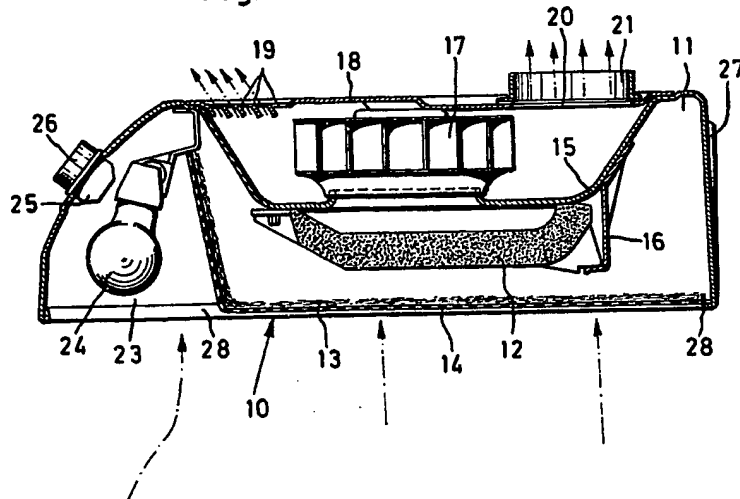
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## COMPLETE SPECIFICATION

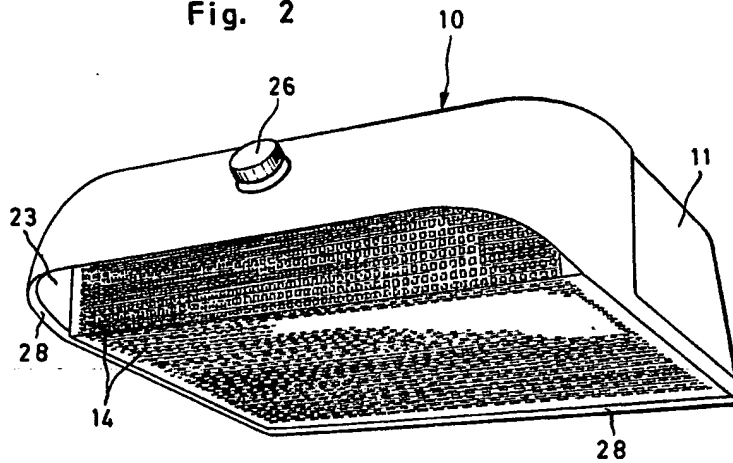
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**Fig. 1**



**Fig. 2**



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